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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,920	12/31/2003	Masahiro Yamanaka	SIC-02-009-2	1888
29863	7590	10/28/2004	EXAMINER	
DELAND LAW OFFICE P.O. BOX 69 KLAMATH RIVER, CA 96050-0069			LUONG, VINH	
			ART UNIT	PAPER NUMBER

3682

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/750,920	Applicant(s) YAMANAKA, MASAHIRO 	
	Examiner Vinh T Luong	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

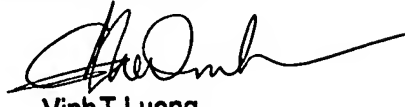
#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
Vinh T. Luong  
Primary Examiner

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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1. The Amendment filed on October 4, 2004 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 12-14 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagano'149 (EP 0 512 149 A1 cited by Applicant).

Regarding claim 12, Nagano'149 teaches an axle bolt 3 (Fig. 3) *for an axle or the like 5 that is structured to be rotatably fitted to a bicycle frame 2 and coupled to a crank arm 6b, wherein the axle or the like 5 has an inner peripheral surface (at 3 in Fig. 2)*, wherein the axle bolt 3 comprises:

a bolt body 3b having a threaded outer peripheral surface 3b and an inner peripheral surface (at 3a in Fig. 3) defining an opening;

*wherein the threaded outer peripheral surface 3b is adapted to fit within the inner peripheral surface of the axle or the like 5 (Fig. 3);*

a plurality of splines 10a circumferentially disposed on the inner peripheral surface of the bolt body 3b; and

a flange 3c extending radially outwardly from the bolt body 3b.

Claim 1 and other claims below are anticipated by Nagano'149 because Nagano'149 teaches each and every positively claimed element. The intended use statement in the preamble such as “*for an axle . . . so that the axle and the crank arm rotate as a unit*” do not limit the claims. *Catalina Marketing International Inc. v. Coolsavings.com Inc.*, 62 USPQ2d 1781 (CAFC 2002). Moreover, it has long been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It

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does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 U.S.P.Q. 138 (CCPA 1946). In other words, referring the axle bolt to the merely inferentially included elements or intended use elements such as the axle, bicycle frame, and crank arm is not accorded patentable weight. It is well settled that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 13, the flange 3c is positioned at an end of the bolt body 3b.

Regarding claims 14 and 18, the plurality of splines 10a are positioned at the end of the bolt body 3b.

4. Claims 15-17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano'149.

Regarding claims 15 and 19, Nagano'149 teaches the invention substantially as claimed. However, Nagano'149's flange 3c does not have a knurled outer peripheral surface.

It is common knowledge in the art to form the knurled outer peripheral surface of Nagano'149's axle bolt in order to prevent slippage. The use of knurled outer peripheral surface to prevent slippage is notoriously well known as evidenced by the cited references. See, e.g., the knurled outer peripheral surface 81 in US Patent No. 5,907,980 issued to Yamanaka and the knurled outer peripheral surfaces 218, 240, 160, and 162 in US Patent No. 5,919,106 issued to Ichida.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the knurled outer peripheral surface on the flange of Nagano'149 in order to prevent slippage as taught or suggested by common knowledge in the art.

Regarding claims 16 and 21, each of Nagano'149's splines 10a comprises a substantially arcuate projection. To change the shape of Nagano'149's splines to the arcuate shape would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995) citing *In re Gal*, 980 F.2d 717, 719, 25 USPQ2d 1076, 1078 (Fed. Cir. 1992); *Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 45 USPQ2d 1977 (Fed. Cir. 1998); and *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) cited in MPEP 2144.04. The arcuate splines are notoriously well known as evidenced by the references cited (see, e.g., US Patent No. 5,370,486 issued to Plummer, Fig. 4 of US Patent No. 5,494,390 issued to Gonzales, US Patent No. 5,207,132 issued to Goss et al., and splines 23 in US Patent No. 4,618,299 issued to Bainbridge et al.).

Regarding claims 17 and 20, Nagano'149 teaches a plurality of splines 3c. To choose the number of Nagano'149's splines to be exactly eight splines would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu, supra*. See also *Sjolund v. Musland*, 6 USPQ2d 2020, 2026 (Fed. Cir. 1988)(the use of a plurality of panels instead of a single panel is obvious).

5. Claims 15-17 and 19 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano'149 in view of Yamanaka'980 (US Patent No. 5,907,980).

Regarding claims 15 and 19, Nagano'149 teaches the invention substantially as claimed.

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However, Nagano'149's flange 3c does not have a knurled outer peripheral surface.

Yamanaka'980 teaches the knurled outer peripheral surface 81 in order to prevent slippage. *Ibid.*, col. 6, lines 7-10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the knurled outer peripheral surface on the flange of Nagano'149 in order to prevent slippage as taught or suggested by Yamanaka'980.

Regarding claim 16, each of Nagano'149's splines 10a comprises a substantially arcuate projection. To change the shape of Nagano'149's splines in Nagano'149's axle bolt, which is modified by Yamanaka'980, to the arcuate shape would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu* and *In re Dailey, supra*. The arcuate splines are notoriously well known as evidenced by the references cited (see, *e.g.*, US Patent No. 5,370,486 issued to Plummer, Fig. 4 of US Patent No. 5,494,390 issued to Gonzales, US Patent No. 5,207,132 issued to Goss et al., and splines 23 in US Patent No. 4,618,299 issued to Bainbridge et al.).

Regarding claim 17, Nagano'149 teaches a plurality of splines 3c. To choose the number of Nagano'149's splines in Nagano'149's axle bolt, which is modified by Yamanaka'980, to be exactly eight splines would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu* and *Sjolund v. Musland, supra*.

6. Applicant's arguments filed October, 2004 have been fully considered but they are not persuasive.

Applicant argues:

Claim 12 has been amended to clarify that the axle bolt is directed to an axle that is structured to be rotatably fitted to a bicycle frame and coupled to a crank arm so that the axle and the crank arm rotate as a unit, wherein the axle has an inner peripheral surface, and that the bolt body is dimensioned so that the threaded outer peripheral surface is adapted to fit within the inner peripheral surface of the axle. *The claims still are directed to an axle bolt per se.*

Nagano discloses a crank axle unit mounted in a bottom bracket (5) of a bicycle frame. The crank axle unit comprises a tubular element (2) surrounding and rotatably supporting a crank axle (1), wherein the bottom bracket (5) surrounds the tubular element (2). A first screw ring (3) and a second screw ring (4) are screwed into opposite ends of the bottom bracket (5) for positioning and fixing the tubular element (2) in the bottom bracket (5), wherein the first screw ring (3) is fitted on an outside wall of the tubular element (2) at one end of the tubular element (2). First screw ring (3) includes tool engaging teeth (10a) on an inner peripheral surface thereof and an outer peripheral threaded portion (3b) that screws into an inside wall of the bottom bracket (5). *First screw ring (3) clearly is not dimensioned so that the outer peripheral threaded portion (3b) is adapted to fit within the inner peripheral surface of an axle structured to be rotatably fitted to a bicycle frame and coupled to a crank arm so that the axle and the crank arm rotate as a unit, and there is no suggestion to make such a modification.* (Emphasis added).

At the outset, Applicant explicitly admits in the record that “[t]he claims still are directed to an axle bolt per se.” It is well settled that the preamble that merely extols benefits or features of invention does not limit claim scope without clear reliance on those benefits or features as patentably significant, and preambles describing use of invention generally do not limit claims, since patentability depends on claimed structure, not on use or purpose of that structure. *Catalina Marketing International Inc. v. Coolsavings.com Inc.*, *supra*. In the instant case, the axle, bicycle frame, and crank arm, *etc.* are merely intended use structures as Applicant admitted, therefore, these structures do not limit Applicant’s claims.

On the other hand, contrary to Applicant's remarks, Nagano'149's first screw ring (3) clearly is dimensioned so that the outer peripheral threaded portion (3b) is *capable or adapted to* fit within the inner peripheral surface of an axle/bracket 5 structured to be rotatably fitted to a bicycle frame 2 and coupled to a crank arm 6b as seen in Nagano'149's Fig. 2. As such, Fig. 2 of Nagano'149 suggests to make such a modification.

For the foregoing reasons, the rejections are maintained.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 703-308-3221. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Luong

October 26, 2004

A handwritten signature in black ink, appearing to read 'Vinh T. Luong', with a long horizontal line extending to the right.

Vinh T. Luong  
Primary Examiner